UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,975	04/13/2006	Anders Lundén	1026-0005WOUS	7027

49698 7590 05/08/2007

MICHAUD-DUFFY GROUP LLP
306 INDUSTRIAL PARK ROAD
SUITE 206
MIDDLETOWN, CT 06457

EXAMINER	
PALABRICA, RICARDO J	

ART UNIT	PAPER NUMBER
3663	

MAIL DATE	DELIVERY MODE
05/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,975	LUNDEN, ANDERS	
	Examiner	Art Unit	
	Rick Palabrica	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/12/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 16-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation, "a cover element, which is arranged to be attached by means of at least one welding operation such that it seals at least a part of said recess." Underlining provided. The claim is vague and indefinite, and its metes and bounds cannot be determined because it is unclear what is all encompassed by the term, "part of said recess." For example, does it refer to the top part, middle part, bottom part, left hand side or right hand side of the recess?

Claim 19 recites the limitation "the substantially plane surface" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "the whole length" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

As to claims 21 and 22, Ueda et al.'s profile element 41, 44 has a continuous extension along the whole length of the recess and is made of metal (see Fig. 20 and col. 18, lines 34+). (Examiner's note: Applicant appears to interpret the term "whole length" as the width of the recess, as shown in his Fig. 4).

As to claims 28 and 29, Ueda et al. discloses a powdered absorber material 42 of boron carbide (see Fig. 20 and col. 18, lines 54+).

Still as to claim 16, the limitation, "a cover element, which is arranged to be attached by means of at least one welding operation", represents both: a) a statement of intended or desired use; AND b) a product-by-process limitation. With regard to item a), method limitations or statements of intended or desired use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

> A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647.
>
> Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531.
>
> [A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525,1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

The system in the cited reference is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that it is sufficient to show that said capability exists, which is the case for the cited references.

With regard to item b), MPEP 2113 states:

> "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777F.2d 695, 698, 227 USPQ 964, 966.

Vesterlund

Vesterlund discloses a control blade for a boiling water reactor (see Figs.1-5).

As to claim 16, applicant's claim language reads on Vesterlund as follows: a) "plurality of channels" reads on the channels 18b (see col. 3, lines 18+); b) "free edge portion with a recess" reads on ends away from supporting block 28 (see Fig. 2); c) "cover element " reads on the cover formed by the weld material 37 (see Figs 4 and 5); d) "profile element" reads on bar 23 (see Figs. 4 and 5); e) "bottom surface in the recess" reads on the surface of body 21 that is adjacent bar 23 (see Figs. 4 and 5). As to the phrase, "such that the profile element covers the outlets of said channels", the term, "such that" connotes a condition arising as a direct consequence or result of the immediately preceding structure or step recited. Thus, Vesterlund inherently meets this limitation because it meets the preceding structure of a "profile element arranged to be applied against a bottom surface in the recess.

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16, 17, 21, 22, 28, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by either one of Ueda et al. (U.S. 5,276,718) or Vesterlund (U.S. 4,888,150).

Ueda et al.

Ueda et al. disclose a control blade for a boiling water reactor (e.g. see Figs. 19 and 20, and col. 18, lines 20+).

As to claim 16, applicant's claim language reads on Ueda et al. as follows: a) "plurality of channels" reads on the channels formed by elongated cladding or covering pipe 40; b) "free edge portion with a recess" reads on the top end of pipe 40; c) "cover element " reads on plug 43 at the top side of pipe 40; d) "profile element" reads on neutron absorbing member 41 covered by sleeve 44; e) "bottom surface in the recess" reads on the surface defined by metal wool 47. As to the phrase, "such that the profile element covers the outlets of said channels", the term, "such that" connotes a condition arising as a direct consequence or result of the immediately preceding structure or step recited. Thus, Ueda et al. inherently meets this limitation because they meet the preceding structure of a "profile element arranged to be applied against a bottom surface in the recess.

As to claim 17, applicant has not defined the term, "substantially correspond", and absent such definition, the examiner interprets the term broadly and reads it on the configuration of the profile element and bottom surface of Ueda et al. in Fig. 20.

As to claim 17, applicant has not defined the term, "substantially correspond", and absent such definition, the examiner interprets the term broadly and reads it on the configuration of the profile element and bottom surface of Vesterlund in Figs. 4 and 5.

As to claims 21 and 22, Vesterlund's profile element 23 has a continuous extension along the whole length of the recess and is made of metal (see Figs. 4 and 5, and col. 3, lines 34+).

3. Claims 18, 19 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Vesterlund.

As to claims 18 and 19, Vesterlund's profile element (i.e., bar 23) in Fig. 4 shows the attributes recited in the claims.

As to claim 27, Vesterlund's cover element (element 37) is attached longitudinally to the two sides of the gap that it covers (see Figs. 4 and 5)

4. Claims 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueda et al.

As to claims 23 and 24, Ueda et al. disclose in Figs. 34-36 a conventional control blade of a boiling water reactor that reads on the claim limitations, as follows: a) "cover element" reads on stainless steel member 5 (see Fig. 34); and b) "profile element" reads on element 3b. Note that elements 5 and 3b of Ueda et al. have substantially plane contact surfaces and abut each other.

As to claim 25, Ueda et al.'s embodiment in Fig. 20 shows a cover element (i.e., plug 43) with the attributes of the cover element recited in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 16, 20, 22, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Research Disclosure 33924/92 (hereinafter referred to as RD '92) in view of Ueda et al. RD-92 discloses the applicant's claim limitations except for the profile element.

RD '92 teaches a control blade of cruciform cross section that is typical of a boiling water reactor (e.g. see figure). As to claim 16, 25, 26 and 27 applicant's claim language reads on RD '92 as follows: a) "free edge portion with a recess" reads on any portion of the blade away from fixed end where a coupling rod is located; b) "plurality of outlets arranged to receive an absorber material" reads on the plurality of channels 2; c) "cover element" reads on strip 4; d) "cover portion" reads on the top part of strip 4; e) "support portion" reads on bottom part of strip; f) "groove" reads on groove providing longitudinal space 5. The cover element is attached to the edge portion of the control blade by two longitudinal joints 6 and 7.

Ueda et al. teach the use of a profile element 3b abutting a cover element 5 (see Fig. 34). The element 3b acts to prevent the B_4C powder from dropping from the accommodating holes 2a (see col. 2, lines 21+).

Both primary and secondary references are in the same field of endeavor. In fact, RD '92 teaches the use of the same powdered absorber material as Ueda et al. Additionally, applicant himself admits to the same purpose of the profile element as Ueda et al., as evidenced by his statement as follows:

> *"[T]he main object of the profile element is to retain the absorber material in the channels during the welding operation such that it does not whirl up and is mixed into the weld joint." Underlining provided. See paragraph 0014 of the Specification.*

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by RD '92, by the teaching of Ueda et al., to include a profile element, to gain the advantages thereof (i.e., prevent spillage of absorber powder from the channels), because such modification is no more than the use of a well known expedient within the nuclear art.

As to claim 20, the thickness of the profile element is dependent upon the dimensions of the specific control blade, including the available space where this element is to be disposed. Alternatively, said thickness is a matter of optimization within prior art conditions or through routine experimentation (see MPEP 2144.05 II.A). For example, while a thicker element is more structurally rigid than a thinner one, it would make the cost of manufacturing the blade more costly.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Ueda et al. (as applied to Fig. 34) or Vesterlund. The reason is the same as that given for Rd '92-Ueda et al. combination in section 5 above.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References C-G further illustrate prior art.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJP
April 17, 2007

R Palabrica
RICARDO J. PALABRICA
PRIMARY EXAMINER